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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/660,381	09/12/2000	Ernst F. Schroder	RCA 90,316	6814

7590 05/19/2004

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EXAMINER

BROWN, VERNAL U

ART UNIT PAPER NUMBER

2635

DATE MAILED: 05/19/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/660,381

Applicant(s)

SCHRODER, ERNST F.

Examiner

Vernal U Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

This action is responsive to communication filed on February 26, 2004.

Response to Amendment

The examiner has acknowledged the amendment of claim 1.

Response to Arguments

Applicant's arguments filed 2/26/2004 have been fully considered but they are not persuasive.

Regarding applicant's argument regarding the central processor and a speech processor as taught by Launey et al., Launey et al. teaches a central signal processing unit (58) connected to the plurality of microphones (figure 1) for processing signal received from the microphones and also teaches a central processing unit (10) for converting the electrical signals from the signal processing unit (58) into operational commands (col. 7 lines 5-62, col. 10 lines 3-4).

Regarding applicant's argument regarding the reference of Thrift et al., the reference of Thrift et al. is relied upon for teaching use of microphone array in a voice control system in order to distinguish between a user's voice and other sounds (col. 2 lines 65-67).

Regarding applicant's argument regarding claim 3, Launey et al. teaches the use of a standardized bus in a home network (col. 14 lines 48-49) and the reference of Lea relied upon for teaching use of the IEEE 1394 bus as a standardize bus in a home network (col. 7 lines 48-49).

Regarding applicant's argument regarding the reference of Abe et al., the reference of Abe et al. is relied upon for teaching the use of wireless speakers as an alternative to conventional wired loudspeakers (col. 3 lines 48-52).

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Regarding applicant's arguments regarding the reference of Kostka et al., the arguments are moot in view of new grounds of rejection.

Regarding applicant's argument on page 7 concerning combining the references of Launey et al. and Matsuo, and Thrift, Launey et al. teaches a voice control system (figure 1) using a plurality of microphones as a means of entering the voice command (col. 10 lines 3-16). The references of Thrift is used to show the conventional use of microphone array in a voice control system and the reference of Matsuo is relied upon for teaching the position of a sound source is determined by the propagation delay (col. 2 line 58-col. 3 line 11) which is considered a conventional practice. Thrift et al. teaches the use of microphone array as alternative to a microphone in a voice activated system in order to enhance the ability to differentiate the user's voice from other sound (col. 2 lines 65-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Launey et al. U.S Patent 5086385 in view of Matsuo U.S Patent 6317501 and further in view of Thrift et al. U.S Patent 6188985.

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Regarding claim 1, Launey et al. teaches a voice control system for consumer electronic devices (col. 14 lines 13-15) with one or more external speakers (66), using a microphone array (64), the voice control system comprising a plurality of microphones for converting a detected signal to an electrical signal (col. 10 lines 3-16);

a central signal processing unit (58) connected to the plurality of microphones (figure 1) the signal processing unit processing the electrical output signals according to the respective position of the microphones relative to the user (col. 10 lines 3-12);

a central speech recognition unit (10) for converting the electrical signals from the signal processing unit into operational commands for the consumer electronics device (col. 7 lines 57-62). Launey et al. further teaches connecting the microphone and the speaker to the processor (col. 13 lines 6-7) and the speaker is further use to provide voice communication to the user (col. 10 lines 12-16). Launey et al. is however silent on teaching one or more microphones integrated in the loudspeaker, the use of a microphone array and the respective position of the microphone is given by different delays. One skilled in the art recognizes it is obvious to integrate the microphones into the loudspeaker because Launey et al. suggests the use of the microphone for user input and speakers use for outputting data to the user in order to provide a means for inputting and receiving information at a common location. Matsuo in an art related microphone array apparatus teaches the position of a sound source is determined by the propagation delay (col. 2 line 58-col. 3 line 11) which is considered a conventional practice. One skilled in the art further recognizes the conventional use of microphone array in a voice control system in order to

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distinguish between a user's voice and other sound as evidenced by Thrift et al. (col. 2 lines 65-67).

It would have been obvious to one of ordinary skill to have one or more microphones integrated in the loudspeaker and the respective position of the microphone is given by different delays in). Launey et al. as evidenced by Matsuo in view of Thrift et al. because Launey et al. suggests a voice control system for a consumer electronic device and Matsuo teaches the use of microphone to detect sound source and delay of the detected sound signal and the location of the sound source is determined by the delay of the sound signal and One skilled in the art recognizes it is obvious to integrate the microphones into the loudspeaker because Launey et al. suggests the use of the microphone for user input and speakers use for outputting data to the user in order to provide a means for inputting and receiving information at a common location. One skilled in the art further recognizes the conventional use of microphone array in a voice control system order distinguish between a user's voice and other sound as evidenced by Thrift et al.

Regarding claim 2, Launey et al. teaches the appliances are connected via AT bus (col. 14 lines 48-49). The AT bus forms a bi-directional network.

Regarding claim 4, Launey et al. teaches the consumer electronics controlled by the voice control system includes a television set (col. 17 lines 15-16).

Regarding claim 5, Launey et al. teaches all microphones (64) are connected to the same signal processing unit (58).

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Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Launey et al. U.S Patent 5086385 in view of Matsuo U.S Patent 6317501 in view of Thrift et al. U.S Patent 6188985 and further in view of Lea U.S Patent 6349352.

Regarding claim 3, Launey et al. in view of Matsuo in view of Kostka et al. in view of Thrift et al. teaches the appliances are connected via a AT bus network (col. 14 lines 48-49) but is silent on teaching the bi-directional network is based on the IEEE 1394 bus. Lea in an art related Home Audio/Video Network With Both Generic And Parameterized Device Control teaches the use of the IEEE 1394 bus to connect home appliance (col. 7 lines 48-49).

It would have been obvious to one of ordinary skill in the art for the bi-directional network to be based on the IEEE 1394 bus in Launey et al. in view of Matsuo in view of Thrift et al. as evidenced by Lea because Launey et al. in view of Matsuo in view of Kostka et al. in view of Thrift et al. suggests the use of a standard type network bus and Lea teaches the use of the IEEE 1394 bus as a standard bus to connect home appliances.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Launey et al. U.S Patent 5086385 in view of Matsuo U.S Patent 6317501 in view of Thrift et al. U.S Patent 6188985 and further in view of Abe et al. U.S Patent 5218641.

Regarding claim 6, Launey et al. in view of Matsuo in view of Thrift et al. teaches a voice control system for consumer electronic devices (col. 14 lines 13-15) with one or more external speakers (66) but is silent on teaching one or more loudspeakers are connected via a radio network. Abe et al. in art related audio signal receiver invention teaches a wireless loudspeaker (col. 3 lines 48-52).

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It would have been obvious to one of ordinary skill in the art to have one or more loudspeakers are connected via a radio network in Launey et al. in view of Matsuo in view of Kostka et al. in view of Thrift et al. as evidenced by Abe et al. because Launey et al. in view of Matsuo in view of Thrift et al. suggests a voice control system in which speakers are connected by a wired network and Abe et al. teaches a loudspeaker with a wireless receiver.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vernal U Brown whose telephone number is 703-305-3864. The examiner can normally be reached on M-Th, 8:30 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 703-305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Vernal Brown

May 16, 2004

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